SCIENCE.

New Discoveries and Improvements.

[Prepared for The Tribune.]

THE ISTHMUS OF SUEZ.—An interesting discussion on the Topography of the Isthmus of Suez, has lately occurred in the London Institution of Civil Engineers; the occasion being a paper on that subject, in connection with the Ancient Canals of Egypt, by Mr. Joseph Glynn, C. E. It appears, from recent levelings and careful examination, that the levels of water in the Red Sea and the Mediterranean are identical, and therefore, that the project of M. Le Pere, for a line of Canals to continue open during eight months of the year, being based on a presumed difference of upwards of thirty feet between the seas, is not feasible. The error in the levels computed by Le Père may be accounted for by the fact of the work being executed under the orders of Napoleon, during the campaign in Egypt, a period of war of the most harrassing description. The ridge now existing at the end of the Red Sea, toward the Bitter Lakes is found to consist of Tertiary Strata, the fossels of which are identical with those of the London Basin and the hill of Montmartre, Paris; and has no doubt resulted from a geological upheaval which materially changed the features of the district. The construction of a canal to connect the Red Sea and the Mediterranean, is still considered practicable.

THERMAL WATERS OF ASIA MINOR.—There are few countries where Thermal waters are so numerous and cover so extensive a surface as in Western Asia Minor. An interesting communication by Dr. J. Lawrence Smith, of the University of Louisiana, gives a detailed description of the several springs of that region.—Of the Sulphur waters there are two sources, near Broosa, named Kukurtlu and Bademli-Baghtsche. Of the Alkaline, three were examined by Dr. Smith—viz: the Kara Mustapha, Tschekirghe and Gueuzayasma. The following are analyses of some of these waters:

Kara Mustapha.		*Tschekirghe.*	
Carbonic acid, free	.104	Carbonic acid, free	.040
Carbonic acid, fixed	.150	Carbonic acid, fixed	.094
Sulphuric acid	.068	Sulphuric acid	.152
Chlorine	.005	Chlorine	trace
Soda	.132	Soda	.039
Lime	.115	Lime	.168
Magnesia	trace	Magnesia	trace
Silicia	trace	Iron	trace
Organic matter, not estimated.		Organic matter, not estimated.	

These waters are in great repute in Turkey, and their effects are said to be most marked in chronic affections, and in diseases of the skin and eyes.

KIRKWOOD'S ANALOGY.—A controversy has sprung up between Prof. Loomis of the University of New-York, and Mr. Daniel Kirkwood, regarding the law of the Rotation of the Primary Planets, which was recently illustrated by Mr. K., and is now known among scientific men as "Kirkwood's Analogy." In the March number of the "*American Journal of Science and Arts*," Prof. Loomis publishes an article calling in question the truth of the discovery, and assigning his reasons for withholding his assent to the law—as follows:

I. That it gives an improbable period of rotation to Uranus.

II. That the mass, distance and time of rotation of the original planet between Mars and Jupiter, as determined by the law in question, are inadmissible.

III. That the values of the rotation constant for Mars, Jupiter and Saturn, are not identical; and

Finally, that the law is incompatible with certain analogies found to exist between the different members of our planetary system.

Mr. Kirkwood replies, in the May number, that Uranus's time of rotation has never been measured; and that his formula harmonizes with the *known* elements of the Solar System as exactly as even recent determinations of the masses of the planets by different astronomers agree with each other. There are then at least seventeen independent variable quantities which harmonize together in a complicated formula—viz: the distances and masses of Mercury, Venus, the Earth, Mars, Jupiter, Saturn and Uranus, and the period of rotation of Venus, the Earth and Saturn.

OBSERVATIONS ON THE MAMMOTH CAVE.—The May number of Silliman's Journal contains an interesting account of the Mammoth Cave, in a letter addressed to Prof. Guyot by Prof. BENJ. SILLIMAN, Jr., who has recently made an exploration of its mysteries; and also, in connection with Mr. R. N. Mantell, made a collection of the animals found there. One atmospheric phenomenon attracted the attention of these gentlemen, and tasked their ingenuity for a satisfactory explanation, viz: The blast of cool air blowing outward from the mouth of the Cave, which renders it nearly impossible to enter with a lighted lamp. If the external air has a temperature of 90° Fahr., the blast amounts to a gale; but if the air without has a temperature of 59—60°, no current is observed and the flame of a lamp held in a favorable position, indicates none. It immediately occurred to me (said Prof. Silliman) that there must be two currents, one above of warmer air, passing inward, and one below of colder air passing outward, and the reverse; but experiment soon satisfied me that this was not the case. Only one current could be discovered, and on inquiry of our intelligent guide, I found that this phenomenon had attracted his attention, and that he was satisfied from many observations that only one current existed, and that this flared *out* when the external air was above 60°, and *inward* when this was below 60°.

The phenomenon is accounted for by Prof. Silliman on scientific principles, as follows: The mouth of the cave is the only communication between the external air and the vast labyrinth of galleries and avenues which stretch away for many miles in the solid limestone. The air in these underground excavations is pure and exhilerating, which may, in part, be accounted for by the nitre beds of incredible extent, as the nitrogen which is consumed in the formation of the nitrate of lime must have its proportion of free oxygen disengaged, thus enriching this subterranean atmosphere with a larger portion of the exhilerating principle. The temperature of the cave is uniformly 59°, Summer and Winter, and this is probably very near to the annual mean of the external air. The expansion which accompanies an elevation of temperature in the outer air is immediately felt by the denser air of the cave, and it flows out in obedience to the law of motion in fluids, and the outward current continues without interruption as long as the outer air is possessed of a higher temperature than the cave.

The phenomena of life within the cave are comparatively few but interesting. There are several insects, the largest of which is a sort of cricket, with enormously long antennæ. There are several species of Caleoptera, mostly burrowing in the nitre earth. There are some small species of water insects, supposed to be crustaceous. Of fish, there are two species, one of which, as is well known, is entirely eyeless; the other has external eyes, but is quite blind. The only mammal, except the bats, is a rat, which is very abundant. Prof. Silliman is of opinion that the excavations of the Mammoth Cave have been formed by water, and by no other cause.

FOUCAULT'S PRINTING MACHINE FOR THE BLIND.—In a recent notice of the proceedings of the Paris Society for the Encouragement of Arts, &c., we mentioned that a medal had been awarded to Foucault for an invention, by which the blind are enabled to communicate their ideas by writing, or rather printing. A gold medal was also awarded to M. Foucault, by the jury at the Paris Exposition, in 1849, on which occasion the instrument was first exhibited.

"In order fully to appreciate," say the jury, in their report on this machine, "the great importance of this valuable invention, we have but to think of the great length of time which has elapsed since the want of such a machine has been felt, and the number of experiments which M. Foucault must have performed, to have enabled him to overcome the numerous difficulties with which he had to contend.

"Many efforts, and those too deserving of the highest praise, have, from time to time, been made, in order to enable the blind to correspond with those to whom the faculty of sight has been granted.

"The dependence, sometimes dangerous, and always embarrassing, on the hand of another, to communicate their ideas in writing, is now, thanks to the discovery of M. Foucault, rendered unnecessary. Of all the methods adopted to give graphic expression to the ideas of the blind, M. Foucault has chosen the one which may be considered as the simplest and most perfect. In fact, by the use of this machine, the blind are even more favorably circumstanced than those who are able to see, inasmuch, as they are enabled to write without having learned how to form a single letter. All that is required is, to know how to read by the touch, in order to be capable of expressing their ideas in an eminently legible manner, since all the letters are in typographic characters.

"The process employed to obtain this interesting result is as follows: All the letters of the alphabet, executed in relief, and of large dimensions, are fixed in the upper extremity of a metalic rod, made to slide longitudinally, with a suitable contiguous canal; they are placed on the same plane, and in the form of a vane, each of them exhibiting on its lower part, the same letter as on its upper part. This letter, of a small size, is exactly that of a printing character; the mechanical arangement is such, that all the letters converge towards the same point, and on being successively pressed by the fingers, the impress of each becomes placed above, forming only a black mass; but whenever a letter is touched, the paper by the same movement, changes its place, and thus the writing, or rather printing is produced, which is at the same time distinct, well arranged, and properly spaced.—when the line is finished, the paper changes place in a perpendicular direction to the former, and the operation is renewed.

"In addition to this, a series of types, forming ciphers, and all the supplementary marks used in writing, is placed in the same way, and in a plane convergent with the former; the general arrangement being, that all the types, whatever their order may have been at first, set their impress on the same point. M. Foucault prefers the use of tracing paper, such as is employed in copying machines. The manipulation is extremely simple, and admits of great rapidity of execution."

The jury concluded by complimenting M. Foucault, (*who himself is blind,*) on the great success which has crowned his long continued efforts to promote the great philanthropic object of teaching the blind to write. It appears that he has been engaged for several years in the construction and perfecting of his machine, which, by his latest improvements, appears to have attained a degree of perfection almost unlooked for. M. Foucault's machine is shown in the French department of the London Exhibition.

ARTIFICIAL TOPAZ.—M. Daubrée has communicated to the Paris Academy of Sciences the results of some researches on the artificial formation of Topaz. Pure alumina, previously calcined by a bright red heat, is submitted to the action of a current of fluoride of silicon. After two exposures of this kind, the alumina increased in weight 70 per cent. The product contained fluorine, and what was more, this fluorine is in such a state of combination as not to be acted upon by boiling concentrated sulphuric acid. By this characteristic alone, the substance produced offers a great resemblance to topaz, the four constituent elements of which it also contains. A quantitative analysis indicated its very near approach to, if not identity with, topaz. Its identity, which is 3.47, is the same as that of natural topaz.

METEOROLOGY.—At one of the meetings of the Paris Academy in May, MM. Boussingault and Arago made their report on the communication presented to the Academy by M. Charles Aguirre, containing a variety of tables and meteorological observations made by him at Antisana, near Quito, during his residence at the latter place. The farm-house of Antisana is situated 4,060 metres above the level of the sea. During one entire year, from December, 1845, to December, 1846, M. Aguirre, from sunrise to the close of the day, and sometimes throughout the whole night, took hourly observations with the barometer, thermometer and hygrometer. The instruments used by M. Aguirre had previously been adjusted and compared with those at the Paris Observatory. The Academy ordered the insertion of M. Aguirre's valuable communication in the *Recueil des savants etrangers.*

Social Christianity.

To the Editors of The Tribune:

Some study of theories for the reorganization of Society, and some reflections of my own upon the subject, have induced me to send you the following thoughts. I am convinced that the discontent with existing social arrangements, and the yearning after some higher form of social development, now so rife, are grounded in real evils and real needs. I am as thoroughly convinced by the study of history of human nature, and of Christianity, that nothing but the living power of the Christian truth and spirit can in any great degree allay this discontent or realize this yearning. The question then arises, whether any organization, based upon the principles of Christianity and suited to meet the wants of our times and country, is *practicable?*

Nothing can be more certain than that any theory which fails to take into account the nature and forces of organizations already existing, however beautiful as a theory, must be visionary in practice. Looking over our country, then, what do we find? Plainly, its body rent from its soul—its spiritual and eternal interests separate from, often at war with its earthly and temporal. On the one side the Church—let me not speak ill of her, even seemingly, without reluctance, for she is the Daughter of Heaven and the Bride of the Son of God—that spiritual body founded by Christ, inspired by the Divine Spirit, and commissioned to subdue the world, is torn, limb from limb, into rival sects, often warring with more zeal and rancor against each other than against the forces of the devil. Of how many of her members can it be said that they mark their membership only by the degree in which they disgrace her? Of how few, that they reproduce in some degree the broad-hearted and self-denying heroism of Christ? And of these few, how many are so warped by sectarian prejudice as to disgust and repulse every earnest seeker after Christianity? That even in this condition the Church is doing a vast work for humanity, I fully believe. She has concerned herself chiefly with the spiritual and future welfare of souls: and this is well; but is it all her work? Has she in this grasped her whole mission? Did not Christ command us to pray that His kingdom might come, and His will be done, on Earth as in Heaven? Now at the present time, the Church has no organized method of bringing the principles of Christianity into immediate contact with, and efficacious influence upon the physical interests of society. At intervals, indeed, she doles out her voluntary charities for the poor, but these only soften, without striking at the root of the evil. This and other means, if sufficient for times past, are far too feeble to meet the wants and cure the radical evils of our present mighty and expanding civilization. There needs some more powerful and systematic influences to be brought into play, if we would save society from its growing corruptions, and realize a nobler Christian Brotherhood. The welfare of thousands now deprived of all religious education demands it. The welfare of the Church demands it; for this separation of the physical interests of man from the spiritual, at a time when these physical interests are such all-absorbing objects of attention, chills the piety and dwarfs the Christian character of her members. Her genial and wide-reaching sympathies are weakened by the want of free play and organized action.

But on the other side we find another kind of organizations coextensive with the Church itself, and penetrating every village, and almost every family in the land. I mean the Mutual Benefit Societies, the Odd Fellows, Sons of Temperance, Rechabites, Good Samaritans, and many others. All these have sprung up within a few years, and their wonderfully swift growth and spread shows how great was the necessity for them. They all have for their prime objects the physical interests of their members. They visit and minister to their sick, apportion funds for their wants, pay expenses of funerals, aid the widows and orphans of their deceased members, and in many other respects help to better the physical condition of those belonging to them. And yet necessary as bread may be, "man doth not live by bread alone, but by every word that proceedeth out of the mouth of God;" in other words, merely physical interests without the religious are not principles deep and vital enough to be the groundwork of a solid, lasting and noble organization. The aims of these societies are not high enough to enlist the sympathies, and call forth the self-denying labors of the noblest spirits. They are founded on mere prudential or humanitary considerations. They lack the heroic and divine element—the strongest principle in human nature, and no truth is more clearly written upon history than that any human society without this principle cannot be permanently powerful and useful. There is another element which these societies have in a great measure left out, viz: the society and influence of woman. True, the Sons of Temperance permit them to organize a society in nominal connection with themselves, but they are not received into the same society, as yoke-fellows and co-laborers for the same common objects. Now it needs no prophet to say that any social organization which does not bring prominently to bear the fellowship of activity of woman, cannot be mightily efficient for the good of mankind.

Such are the existing organizations of our country—the spiritual and the physical, like brother and sister, each needing the other's nurture and support, yet each separate from, and often quarreling with the other. Is a union and reconciliation practicable?

As to the *fact*, the future must decide; as to the *possibility*, let me suggest the following: Why may not an organization be set on foot which shall take hold upon the interests of both worlds, the spiritual ennobling and glorifying the physical, and the physical giving body and efficacy to the religious. Such an organization, laying down for its basis some simple statement of Christian truth, like that venerable instrument, the Apostles' Creed, and setting up for its objects the spiritual culture and physical welfare of its members, might draw within itself persons of both sexes from almost all the sects of Christendom, as well as thousands of others, who are now connected with no Christian society. It might at the start, by initiation fees, and weekly dues, rated according to the ability of each member, accumulate a fund, which up to a certain amount should be devoted, by regulations of the society, to needy and worthy members, and all above a certain amount to whatever other Christian and Social objects the society might see fit. Its meetings, and their exercises might be regulated, and its organization further consolidated, as circumstances should require. Such a society would contain in its very germ the capacity for unlimited growth and expansion. It need not set itself in antagonism to the different churches, as another sect, but its members might still retain their active connection with whatever denomination they chose. It might gradually absorb the best part of the other mutual-aid societies, not as a rival, but as embracing their objects within its own grander aims.

How much might such an ORDER OF SOCIAL CHRISTIANS, planted on the firm groundwork of Christian truth, drawing inspiration from its glories, its hopes and its fears, and made up of men of every sect and of no sect, achieve for humanity! How much might it do toward establishing Christian Unity, and healing the wounds and scandal of Christian Sectarianism! How much might it do toward applying Christian principles to the evils that now eat like a canker at the core of society! How much for the practical education of the rising masses in the principles and spirit of Christian Brotherhood! How much by reaction and generous rivalry might it do for the Church itself, in sending new life-blood to quicken its effete and languishing members.

Such an order is not without its antetype in the history of the Church. When in the times of the crusades the miseries of the sick and wounded were very great, Christian sympathies organized, under the sanction of the Pope, the religious military orders of Knights Templar, and of St. John. When at a later period, through the neglect and corruption of the regular clergy, the religious wants of the lower classes were not met, the Mendicant Orders of St. Dominic and St. Francis sprang up, and, almost from their birth, became mighty organizations. And when at the Reformation the Catholic Church seemed about to crumble to dust under the sturdy blows of the Reformers, the new order of the Jesuits, suited to the times, sent new life through her decaying body, and almost renewed the strength of her youth. And behold in our own times how great is the energy of Mormonism, multiplying its disciples by thousands all over Europe, because it cares for the earthly and physical interests of man, as inseparably connected with the proper development and training of his religious life. Where now are the heroes, full of the Spirit of Christ, and as full of the spirit of the times, who shall hand down their names to immortality as the Founders of this Christian Order? Let them know that there are ten thousands of hearts waiting and yearning for the appearing of the Kingdom of Christ, and who will rise up at their call to second and carry forward the great work. God speed it in His own good time! H. M. R.

The Sixth Industrial Congress to the People.

FELLOW CITIZENS: The Sixth Industrial Congress of the United States respectfully invite your attention to a great measure of Reform, which it deems of vital importance to the welfare of our people and the glory of our country. For six years has it appealed to you, in behalf of the Freedom of the Public Lands, in limited quantities, to actual landless settlers only; and now their appeal is receiving warm responses from thousands of the just and generous. Scores of representatives in the highest councils of the country have declared the measure just, and dictated by the highest considerations of public policy. A few years since but a single paper among the two thousand of the land raised a note in this behalf; now hundreds are advocating it, and the number is constantly increasing. One of the Land Reform measures—Homestead Exemption—has now become the policy of nearly half the Confederacy; and though it will be of little consequence when Land Freedom and Limitation shall be adopted, yet until that time it will be of great importance to the security of wives and children, who have too often fallen into a nameless and comfortless condition, through the improvidence of husbands and fathers.

There is not the least doubt but Land Freedom and Limitation will, at no distant day, become universal throughout the Republic. The indications of its progress in the public mind during the past few years are ample evidence that the doctrines involved in this reform will soon be confessed by every thoughtful person. It is founded in exact justice—it is not an eleemosynary or *charitable* measure—it is full of truth, and involves some of the Natural Rights of man—the right to a place in which to be and exist on the earth, which was evidently intended for the free use of all mankind.

But as this measure is yet too generally misunderstood and misrepresented, it is proper to give a brief exposition of its principles, its scope and its bearings upon the general welfare. It is proposed to abolish the present Land System by which individuals are permitted to control vast sections of the earth for purposes of speculation, and thus withhold them from the hand of industrious Labor—and to substitute in its stead a system that recognizes all men as equally entitled to a portion of the earth on which to live and toil, and provides for securing a farm to every agricultural family and a town lot of ample size to every other family free of cost. What are the reasons for this change?

1. The very fact of existence implies the right to a place in which to exist. Man can live neither in the air, the sea, or in the caverns of the earth—but he must dwell on its surface, and subsist by the application of Labor to the Elements of Nature. But our condition is prescribed on which an ample supply can be obtained—and that is, the application of Labor to the cultivation of the Earth. In the earliest stage of society, man subsisted on the spontaneous fruits of the earth, and all it was necessary for him to do was to gather and consume them. Is any thing clearer than that all had a right freely to pluck and eat?—But had the present Land System prevailed in this early period, it would have enabled the strong to say to the weak, you shall not be permitted to gather the fruit, neither to eat nor exist unless you will gather for both yourselves and us—selecting the fairest, most pleasant and healthful, and far the largest quantity for our use, taking for yourselves only the refuse of the season! No one can escape an acknowledgement of the gross injustice and absurdity of such a Land System—and yet it is the *existing* Sytem—that which enables those who are best able to produce their own living, to luxuriate, and accumulate without labor on their part, and exclusively from the toil of the weaker and more ignorant portion of mankind! This is the System that prevails in this age of boasted Freedom, Enlightenment and Justice—the System of Land Monopoly. The wants of man are more numerous now than they were in the primitive age—and his supplies are produced by the cultivation of the soil; is it not as essential that every one should now have land to cultivate as it was in the first age, that he should have free access to the fruits on which he was compelled to subsist? The multiplication of wants by the progress of society renders the relation of man to the soil still more intimate—and the few are enabled by Land Monopoly to take advantage of this complexity of society for selfish agrandizement at the expense of Labor. It requires, therefore, greater care on the part of the Government to secure to each and all their natural right to the elements of Nature. It is now understood to be the object of Government to protect the weak against the strong—to guarantee Human Rights—let it do this, and restore the Earth to all who live and labor.

2. The existing Land System should be abolished because it is the foundation of the unjust distribution of the products of Labor—of great wealth on the one hand and greater poverty on the other—of idleness and enervating luxury on the right, with severe toil and privation on the left—of most of the inequality that prevails among the people, and of all servitude, aristocracy, despotism and slavery. The triumph of the strong over the weak was first obtained by monopolizing the land and making them dependent upon the will of landholders for a place on which to exercise, being and to produce the necessaries of life.—No despotism was ever maintained without Land Monopoly. When each one produces his own living and controls no more of the earth than his wants demand, it is impossible for aristocracy, slavery, servitude or great inequality of any kind to exist. No man would wish to employ an agricultural laborer, because each would have his own land, and would greatly prefer to work for himself, instead of another at half price. And as to the other classes of laborers, the mechanics, &c., there would be such general equality in intelligence, had it not been for Land Monopoly, that they would, by cooperation, conduct their own business employ all machinery for the common benefit, and enjoy in nearly equal amounts, the produce of the establishment. Had the true Land System been established in this country, at the time our Government was instituted, we should, ere this, have nearly reached this condition—that, in which all Agriculturalists cultivate their own farms, all Mechanics and others, live on their own lots, under their own roofs, and employ their own hands. This system must soon be established, for ignorance, vice, crime, servitude and infirmity, cannot be overcome until natural justice prevails. So soon as it is established, we shall begin to approximate a truer order, and by this means only, can society be renovated. This is the rationale of social progress. As long as the land is monopolized, so long *must* many be dependent upon monopolists for the labor they perform, the bread they eat, and the breath they breathe. The young poor man must hire himself out in servitude to the Capitalist before he can enjoy his natural right to the earth—he must earn money by slavish toil and rigid economy for years before he can live freely on the earth that is self-evidently common to all—to one as well as another—to each as much as he can use and no more. The poor, the majority, are now compelled to purchase the enjoyment of a natural right—and out of this purchase money spring all large fortunes, all idleness, all poverty, and nearly all that is wrong in society. This subjection and servitude must ever follow Land Monopoly, and no one in this democratic country will pretend to say that this servitude of the many to the few, or the few to the many is in accordance with that system of equality and justice established in the moral government of God. By placing a price upon that which the Creator provided equally for all we strike down His whole system of equity, and a false order is established on the ruins of Divine Justice. As long as vacant land bears a price, the pennyless young man must serve a longer or shorter period to procure the purchase money. This term increases as the country grows older, because land rises in value proportional to the increase of population. The greater the population the greater the number who want homes and farms, and of course the higher is their value.

3. As long as Land Monopoly is permitted there must be some who can never obtain their own houses and must live and die in servitude. If there be land enough in Ohio, for example, for 2,000,000 of farmers, and it is all owned by one million, it follows that one million must be and remain the servants of the other one million—either hired laborers at one hundred dollars per year, or tenants paying one third of all they can produce for the privilege of working when God designed they should toil free from such extortion. This is on the supposition that Ohio is filled up with inhabitants, and the example presents but a partial view of the operation of the present Land System. It is true that now a thrifty young man may get himself a farm, after a comparatively short period of servitude, but all cannot, for if they could, monopoly would cease. Could all readily supply themselves there would be little inducement to monopolize land; it is because so many must ever want, it is because there are always a majority who, robbed of a national right, must offer their labor to those who can speculate out of it, that one desires such vast farms and so many city lots, which he cannot possibly use for his own welfare. It is a sad reflection for a rich man, that all his wealth comes from the wants of his fellows—that his extra farm would be worthless did not others suffer in want of farms—that his house and treasures would be valueless were there not many of his fellows suffering for what they represent. It follows, therefore, that all cannot own houses until Land Monopoly is abolished.

4. We ask the abolition of this species of monopoly because it is the basis of other species of speculation by which labor is oppressed. Much of our Bank, Corporation, and Commercial speculations rest upon the monopoly of the soil. The credit system itself looks to the land for its existence in its present shape. Who can get money from a bank without giving real estate security or the names of men who have monopolies of real estate? What money-lender does not take a mortgage on some farm or city lots for every hundred dollars that goes from his hand to the borrower? Real estate is tangible, stable property, while personal wealth is fleeting—hence, the assertion of Sismondi that power follows the possession of land. Does a manufacturing company desire a hundred thousand dollars to procure raw material and employ hundreds of operatives for speculation? It must give landed securities. The same may be said of all chartered companies or partnerships. Those who can command the land or obtain the houses of those who already command it, can get the capital for speculation; all who cannot command this power must struggle on without hope of wealth.

It follows, therefore, that if we would give all a fair chance in the world, we must forbid the appropriation of the soil by individuals to a greater extent than their own labor and comfort demand. The land must cease to be the basis of credit and of speculation. The Homestead must be a sacred thing not to be mortgaged. How does the present Land system operate in widening the inequalities that prevail?—It furnishes to the shrewdest the means of commanding the labor of their fellows at half its worth; and thus those who are most abundantly endowed with sagacity, and could do the most for the public good were it not for the temptations of wealth, are enabled to become the oppressors of hundreds and thousands.

But we are told that this would cripple enterprise and diminish the means of providing labor for the poor. Not so. The poor would have labor enough of their own with no thanks to the speculator. And as for enterprise—it is true that speculating enterprise may be discouraged—which is a desideratum in social progress—but the enterprise of the millions would be stimulated under the light of hope which Land Reform would shed upon them. Those whose enterprising spirit cannot confine itself to the means of living, would engage in philanthropic labors, and under the inspiration of their virtue and benevolence how rapidly would mankind rise in excellence, happiness and nobility!

5. In the fifth place—and more particularly of the Public Domain—it is grossly unjust for speculators to take up the best portions of the Western lands, and, while reposing at the East on rosewood couches, enjoying all that wealth can command, profit out of the hard labor of the long-suffering pioneer in a wilderness of privation. There is scarcely anything in the whole catalogue of crime that seems to us more wicked than this. A spirited man who wishes to mend his fortune by moving from a State where monopoly throws so deep a discouragement over the prospect of labor, takes his family, bids adieu to civilization, and after a long and tedious journey, penetrates the depths of the wilderness. Surely, he ought to have the best unoccupied lot he can find; but lo, it is held by an Eastern lounger, who nightly revels in wine and gayety. He must accept an inferior lot or go still further; at all events he must settle down at so great a distance from others, and be so hemmed in by monopolies that he can enjoy no social pleasures, nor his children the advantages of a school! Is murder worse than this? So, children growing up in ignorance become murderers! The pioneers clear up the poorer lots left to them, and the land speculator profits by their toil without doing aught else than impeding their prosperity. How long will the laborers of this country remain ignorant of this system of plunder?

6. The prosperity of the Western country demands the Freedom of the Public Lands to actual settlers only. No one need be told that the monopoly of land in any country impedes its prosperity. Every new State has deeply felt the injury. Thousands of pioneers who would gladly settle in the neighborhood of others, pass by because the vacant land is held by non-residents who are awaiting the rise of its value by the improvement of the country. Many townships and counties in every Western State, if not the whole Union, are yet in a backward condition, as compared with other counties, because the land is monopolized. If we would look for the greatest prosperity we must find it where the soil is most equally divided among the people.

Land Monopoly is also a curse to the State in impeding Internal Improvements. Canals and Railroads cannot be constructed by a sparse population. But under the Land Reform System, the tide of population would advance gradually westward as the good land is all taken up. Every settler would be in good society from the first and Canals and Railroads would be carried along with the settlement of the country. Thus every settler would have a good market from the first, and not, as now, be compelled to wait for years for an opening with the great marts of the world. To mitigate this evil, the Western States have gone to the verge of bankruptcy in constructing Internal Improvements. A burden of about $100,000,000 rests upon the West, in the shape of State debts, contracted partially to afford a market to the produce of the farm and the shop, but chiefly for the benefit of Land monopolists, the value of whose unjust possessions has been enhanced thereby. Under the true Land system the people could have made their own improvements at far less expense, without even so much as a charter from the State; but now they are under an annual contribution to capital, in the shape of interest, that is levied upon them. Behold how monopoly doubles and quadruples its power of extoring from Labor! In the first place it takes the land, and a part of the labor of the people goes into its value to be absorbed by the rich. In the second place, the State makes Internal Improvements, which greatly raise the value of monopolies; and in the third place, the monopolists lend the money they make out of labor to the State for Canals and Railroads, and draw interest upon it from the labor of the very persons whose toil produced it! Let these things be carefully considered. We have got about 1,400,000,000 acres of Public Domain, and the question is, whether these acres shall belong to the hard hands that work, or be plundered by delicate, glove-invested figures that will not deign to perform the least productive labor.

But some objections are urged against Land-Freedom and Limitation. What are they, and what force do they bear?

1. Why may not land be made the subject of monopoly as well as personal property? Because land is not the product of human labor. Personal property cannot be produced without the instrumentality of toil. In the first instance, labor is employed on the land to produce the raw material; and in the second, it is expended in the shop to prepare it for use. The products of the various kinds of labor are personal property. Land is wholly independent of human agencies for its existence. The political economists found the right of property solely upon labor; and when they come to the land they tell us that the labor of man applied to the soil founds a right of property in it. We take this as the truth, and say that whatsoever land a man improves with his own labor shall be his, but he shall not claim title to that which he cannot improve without the labor of others.

There is, accordingly a wide difference between property in land and in moveable goods. When the monopoly of the former shall cease, there will be little or no danger of the monopoly of the latter to such an extent as to disturb the general welfare. Let justice be done in respect to the soil, and each will be welcome to possess all he can produce by his own labor. All we ask, therefore, is, that one man shall not profit at another's expense. But under the present unjust Land system, the harmony which God designed between man and the earth, as well as between man and man, is destroyed; a few live in splendor at an expense of thousands beyond any one's right, and often add thousands annually to their wealth besides; and many are consequently driven to the other extreme, and forced to deny themselves every comfort though they perform the greatest amount of hard labor. How rank is the injustice of this! Who has not reason enough to perceive it, and heart enough to desire a change in the unnatural system that occasions most of the ills of society.

2. The second objection is that land is cheap at the West—only one dollar and a quarter an acre—and all can have farms if they desire. Let the objector listen. If it is my natural right to have a farm, if a farmer, or a town lot, if a mechanic, as has been clerly proved, they insult me by asking a price for that which God most manifestly gave unto me. This objection is nothing; for the whole question is one of natural justice, which, if decided one way, Land Reform must prevail, but if the other, it must fall. I have a legal right to my time on arriving at twenty-one—why may not my father ask me one hundred dollars for my liberty, while I have not a cent to pay? It will not work.

But look at the effect after a territory becomes settled. Wild land commands ten dollars per acre and the price rises as the country fills up. What *then* is the poor young man to do? Let us keep in view the time when the whole country shall become settled, as that time *is* coming, and it is far easier to put the truthful system into practice now than it will be then. A day of extreme wealth on the one hand and of extreme poverty and distress on the other is coming in this country, if we do not change our Land System. Liberty, Equality, and Democracy will be but empty sounds if we do not in season lay the basis of real Freedom. Our fathers did not make all the progress that is necessary—there is something for us to do.

3. A third objection is that very few would take advantage of Land Freedom were it carried into effect. Here again the objector leaves the real issue, and asserts what he has no right to assert. If but one in ten or a hundred will be freemen, is it any proof that all have not a right to be free? So of the land. But how can we satisfy ourselves that none will take that which rightfully belongs to them, and without which they cannot live except in servitude? What presumption is this in the objector! Because some will not enjoy what belongs to them he would snatch the right forever from the reach of every one. The objector would look as well stealing a watch from a jeweler, and justifying the theft by saying that he could never sell it, and never would if he could. Absurdity after absurdity attends the enemy of Progress.

4. Again it is objected that the Public Lands belong to all the States, having been acquired by the blood and treasure of the fathers of the Confederacy, and it would be unjust to permit their settlement without price. Even granting that they are the property of the Nation, cannot the Nation give them away as justly as an individual can make a deed of gift? But if our fundamental principles are true, the Public Lands do not belong to any power under heaven but that of Labor, and every one who wishes to toil, upon land not actually cultivated by another, has the right to do so by nature, and it is the province of the United States to guarantee the enjoyment of natural rights.

5. It is said that the Public Domain should pay the expense of its purchase and survey. Take notice, all ye who make this objection to Land Freedom, that it will save ten fold this expense in crime and pauperism, to say nothing of the human misery it will prevent. Were economy consulted, the lands would soon be free. Besides, every independent farmer and mechanic, made such by this reform, is an addition to the number of tax-payers, and the large accession in this respect will more than compensate for all the Domain has cost.

6. Another objection is, that Land Reform will cripple enterprise and destroy industry. Not so. It will greatly stimulate all true individual-elevating, and public-benefiting enterprises, and awaken an industry in the millions that is enjoyable. It will put an end to mad avarice, that ruins so many promising young men, and destroys that body-breaking, soul-killing industry that only obtains a starving reward. All having land that they can call their own—a little empire on which they can sway the scepter of their individual kingships, will feel themselves of some importance in the world—will be strengthened by a manly sentiment, and virtue will flourish on millions of Homesteads which would otherwise be the abode of filth, dullness, indolence and vice.

But away with these objections—we spend too much breath upon them. The very notice of such absurd shifts to avoid a glorious truth dims the glory of that enlarged policy of wisdom and benevolence which looks to the emancipation and elevation of all mankind by restoring them to the earth which is, like freedom, the birthright of all men.

What, then, shall be done? Land Reformers, who have fought in this great moral battle for years, are you not yet fresh with enthusiasm for the good of your fellows, and yet full of youthful vigor to advance the good cause? And you who see the crying demand for a change in our Land system, will you not come to the work and carry it forward in triumph? Now is the day and now is the hour. It must be done by voting such men in as will vote out unjust laws. This question transcends all party considerations. It affords the voter an opportunity to vote for principle instead of spoils—to vote for the good of all the people instead of the elevation of aspirants to office.

We leave the question with the people. It will be carried out at no distant day, and we might as well all come up to it at once, as happiness will the sooner dawn upon those whom the great truth will bless. The laborers should vote for Land Reform, because it will secure to labor its rights; the rich should vote for it, because it will advance the welfare of all the people, rich and poor, and promote the glory of our country; the clergy should advocate it, because it proposes to restore the divine decrees respecting the earth, that have so long been trampled under foot by monopoly. All classes should shout for Land Reform for it is full of life and love and liberty to all.

Let the friends of the measure everywhere organize at once and begin the battle. It can be carried into the next National Administration provided we do our duty. Speak, write, print and circulate the documents. Fill the whole land with olive leaves of peace to the struggling, hope to the desponding, plenty to the destitute, virtue to the vicious and gladness unto all.

L. G. HINE, of Cincinnati,
N. W. BROWN, of Philadelphia, } *Committe.*
H. D. BARBER, of New-York,

The Anti-Petticoat Movement.

MR. EDITOR: The noted Bloomer costume for the first appeared in our streets last evening and created quite a sensation among all classes. There were various opinions regarding it, and for one I must be allowed to differ from most of your correspondents, as I must acknowledge it seemed to me, to say the least, quite unfeminine. ANTI-BLOOMER.

Lakeville, Litchfield Co., Conn., July 10, 1851.

SINGULAR AND LAMENTABLE OCCURRENCE.

—A few days since a lady residing in Ann-st. purchased a large steel trap, with a view to the destruction of rats, they having become very annoying in several apartments of her residence. The trap was set on Sunday night, and placed by her upon a chair, she intending to remove it into a closet before retiring. In the meantime her husband entered the apartment, and undressing, was in the act of sitting upon the chair, when the spring was moved and in an instant the clamps seized him in such a manner that amputation was rendered necessary. Fears are entertained for his final recovery. [Balt. Sun.

VERMONT.

Scientific Farming—A Visit to the Farm of Judge Meach.

SHELBURNE, VT., Thursday, July 10, 1851.

To the Editor of the N. Y. Tribune:

That Vermont is one of the best agricultural States of the New-England group there can be no question. Her valleys are rich, and her mountains are covered with good soil quite to their summits. This town of Shelburne, in which I'm writing, is territorially small, but the soil is well husbanded and productive, the scenery picturesque and beautiful, and the inhabitants industrious and independent. Here Judge Meach resides, on his splendid farm, which stretches along the shore of Lake Champlain, and contains twenty-three hundred acres in one body. The farm is admirably located, and presents some beautiful points aside from the richness of the soil and the great amount of agricultural wealth which now covers it. The mansion-house where the Judge and his wife reside, is situated but a few rods from the shore of the lake, and stands in the center of about five acres which are inclosed by some two or three rows of tall, handsome cedars. Here is a spot worthy to be described. You enter the gate and find yourself upon a wide and beautifully graveled walk, overshadowed by large forest-trees of many kinds. You travel along a few rods and then cross a crystal brook, that runs into a fish-pond below, where you might have seen disporting themselves some score or two of large speckled trout, well fed and fat, if some infernal scamps had not caught them out a few weeks ago when darkness covered their evil deeds. The rascals who perpetrated that theft, would steal the butter from a Negro slave's hoe-cake, and rob the dead of the pennies that cover their eyes, even if the dead were their own mothers. You will ask what small house is that which stands upon the margin of the brook, with an arch of woodbine in front and roses about its entrance? The answer will be: "The house where the pans of milk are set for the cream to rise and where the yellow, sweet butter is made." You pass under this beautiful arch of woodbine and enter the neat little house, and there you see, well arranged upon clean shelves, the pans of milk covered with delicious cream, which would certainly make your mouth water, if you had seen the beds of rich strawberries which are in the garden beyond.

You come out from this retreat, and wide graveled walks branch out before you in various directions. You now stand in front of the house, overshadowed by forrest trees, surrounded by various kinds of flowers, and your ears filled with the sweet music of a thousand birds. Every object that meets your view, except the graveled walks and the mansion house, seems to be the work of Nature. Yet all the trees of this little forest were set out by the tasteful proprietor, forty years ago. They are so arranged that you don't once imagine but they grow as Nature planted them, and you are almost cheated into the belief that you have been set down in some forest in a tropical clime. Now, the Judge, in his old straw hat, may be seen, perchance, stalking, like a giant, among the trees of his own planting, or sitting under the piazza, taking a pinch of snuff. At first you will be sure that he is some "fine old English gentleman," enjoying his country seat, in the Summer months. But half an hour's conversation will show you that you are in the presence of a Vermont farmer, who began life by carrying a bushel of wheat on his back ten miles through the woods to mill, and trapping furs. Now his wife appears, and you will see one of the handsomest women, both in face and form, of her age, you have had the pleasure of meeting in this or any other country. "Can these be farmers?" you will ask yourself. Indeed, they are, and Vermont farmers, too. But my object is to speak of things, and not of persons. You pass through a neat, airy, well-furnished house, and now one of the most beautifully arranged flower-gardens opens to your view you have ever seen. It will seem as if Flora had spread out all her treasures here. Every variety of flower is before you, and the air is all perfume. You pass on, and gooseberries and strawberries, almost as large as hen's eggs, invite you to pick. You are now in the midst of everything that can please the palate and regale the eye, and you will say: "This is one of the most beautiful gardens I have ever seen." And bear in mind this is the garden of a Vermont farmer.

But I must get you out of this enchanting spot, and let you see the rich fields and the green pastures. I have said this farm contains 2,300 acres, but this is not all his farm. The Judge owns another *small patch*, as he might call it, a short distance from the home farm, but not joining it, that contains 1,300 acres of most excellent land. But I will not weary you by asking you to travel over this Vermont farm, which contains 3,600 acres of land, all fertile and under good improvement. Judge Meach owns just such a farm as this, and keeps 4,000 sheep and a great many cattle and horses on a great many hills. Some years he cuts a thousand tuns of hay, and raises a great amount of produce. How many human beings such a farm will feed and clothe! This is unquestionably the largest farm in New-England, and I very much question whether there is one in the Union that produces more. There may be some farms in Virginia or other States that embrace more acres, but I don't believe there is one that is really worth so much money. Some Virginia landlord may own more territory, and have half as many slaves as Judge Meach has of sheep, but then the profits may be small when compared with the products of this Vermont farm.

I have endeavored to give a plain, unvarnished account of this farm, but I'm quite sure the description falls far short of the reality. I have visited a good many farms in this State and in the Great West, but I have never seen one that is equal to Judge Meach's, taking everything into the account. Who would not be a farmer, if he could be such a farmer? After all, a farmer's life is the most happy one. And is it not strange that so many hale and hearty young men will congregate in our cities when such a variety of soil and climate as our country affords are within their reach? We must have merchants, it is true, and they are a useful class of the community; but then their lives are full of perplexities, and often of great adversities. Seed-time and harvest are promised to all, but we have no warrant against the convulsions in the mercantile world. Besides, it is easier to be honest on a farm than in a trading-house. The farmer has no inducements to be otherwise than honest, while the trader is all his life-time subject to temptation, if not to absolute bondage. B.

CINCINNATI.

Local Affairs—Fourth of July—Temperance—Politics—The Tariff.

Correspondence of The Tribune.

CINCINNATI, Wednesday, July 9.

DEAR TRIBUNE: If we haven't quite so large a city, so many ships and vessels of all kind, so many banks and brokers, so much poverty and wealth, so much money and misery as your great Gotham can boast of having, still we feel quite proud of our little Queen City, notwithstanding her want of capital in order to push her energies into every department of improvement. We can do a great many things, however, that are quite as silly as any performances of the Gothamites, not excepting buffalo hunts and wild boar chases. Then, too, we have the Spirit Rappers all the way from Rochester, to let us into the mysteries of the unseen world. All this we have had in our midst, and much more than this might be revealed, but not now.

Our city did full honors to the glorious Fourth just passed, in more ways than one, and on this score she deserves infinite credit, whether she gets it or not. More than 300 of our draymen, hardy men of toil, mounted on horseback, and after parading through the principal streets, proceeded to a fine grove near by, where they partook of a dinner prepared for the occasion, and after going through with appropriate exercises, quietly returned and dispersed to their homes, without an accident of any kind or a word of ill feeling to mar the ceremonies of the day. What is most peculiar and worthy of note, is the fact that not a drop of liquor was drank on the ground by any of those who participated in the celebration, and of some twelve or thirteen other parties of nearly the same number that left the city to